



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/529,307 | 03/25/2005 | Roger Guevremont | 151-12 US/PCT | 8639 |
| 25319 | 7590 | 10/05/2006 | EXAMINER | |
| FREEDMAN & ASSOCIATES 117 CENTREPOINTE DRIVE SUITE 350 NEPEAN, ONTARIO, K2G 5X3 CANADA | | | GABOR, OTILIA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2884 | |

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/529,307 | Applicant(s) GUEVREMONT, ROGER | |
| | Examiner Otilia Gabor | Art Unit 2884 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>11/03/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osborne et al. (US 4,485,307).

Osborne discloses an apparatus for separating ions, comprising:

- a plurality of first electrode portions (30) having a first length and an outer surface that is at least partially curved (rod-shaped) in a direction transverse to the first length
- a plurality of second electrode portions (32) interleaved in a repeating sequence with the plurality of first electrodes, and having a second length and an outer surface that is at least partially curved (rod-shaped) in a direction transverse to the second length
- a space between the first and second electrode portions defining a gap for separating the ions
- a controller for electrically coupling the plurality of first electrodes and the plurality of second electrodes so that there is an electric field generated in the gap between the electrodes, whereby the ions are propagating along a

direction that is transverse to both first and second directions and are separated in the gap (see Figs.1-3 and associated description).

Regarding claims 1, 11, 12 Osborne discloses that both the first and second plurality of electrodes are connected to voltage sources to create the electric field between them, but he fails to specifically disclose that the electrodes are connected to both an asymmetric and a direct voltage (claims 1, 11), and that electrodes are so arranged that the electrode to which an asymmetric voltage is applied has as its nearest neighbor an electrode to which a direct current is applied. However it would have been obvious to one having ordinary skill in the art to use any combination of biasing the electrodes, and thus applying an asymmetric waveform and a direct voltage to any of the electrodes, because both the present and the Osborne apparatus are concerned with generating an electric field between the electrodes in such a way as to facilitate the pulling and the pushing of the ions in a specified direction.

Regarding claims 2-5, 7-9 Osborne discloses that both the first and second electrodes are rod-shaped electrodes and thus have a circular cross-section and that a plurality of electrode layers are alternately positioned one on top of the other, whereby the layers are separated by the gaps where the ions are separated. The layers are positioned equidistantly, and so the same distance is maintained between the plurality of first electrodes and the plurality of second electrodes (see Fig.2). Osborne discloses that the plurality of electrode layers are mounted between two support surfaces (see Fig.1). Osborne discloses that the plurality of first electrodes are parallel to the plurality of second electrodes (see Fig.2).

Regarding claims 11, 13, 14 Osborne discloses a housing (12) into which the ionizing gas is introduced and as such it inherently discloses an inlet aperture (though not shown), and a plurality of apertures (holes) that allows the introduction of ions into the analytical gaps (see Fig.1).

Regarding claims 6, 10 Osborne fails to disclose that the electrodes are extended into an S-shape and that the electrode cross-sections are elliptical, however it would have been obvious to one having ordinary skill in the art to shape the electrodes into an S-shape and have elliptical cross-sections since it has been held that a mere change of form or rearrangement of parts is within the skill of one in the art (*Span-Deck, Inc. v. Fab-Con, Inc.* (CA 8, 1982) 215 USPQ 835).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 571-272-2435. The examiner can normally be reached on Monday-Friday between 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2884

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Otilia Gabor
Primary Examiner
Art Unit 2884



OTILIA GABOR
PRIMARY EXAMINER